

ABSTRACT

There is provided a high-stiffness high-strength thin steel sheet having a tensile strength of not less than 590 MPa and a Young's modulus of not less than 230 GPa, which comprises C: 0.02-0.15%,
5 Si: not more than 1.5%, Mn: 1.0-3.5%, P: not more than 0.05%, S: not more than 0.01%, Al: not more than 1.5%, N: not more than 0.01% and Ti: 0.02-0.50% as mass%, provided that C, N, S and Ti contents satisfy $Ti^* = Ti - (47.9/14) \times N - (47.9/32.1) \times S \geq 0.01$ and $0.01 \leq C - (12/47.9) \times Ti^* \leq 0.05$ and the remainder being substantially iron and inevitable
10 impurities, and has a texture comprising a ferrite phase as a main phase and having a martensite phase at an area ratio of not less than 1%.